

# ACTUARIAL VALUATION REPORT



Webster Retirement System  
January 1, 2004



# PERAC ACTUARIAL VALUATION REPORT

Webster Contributory Retirement System

January 1, 2004

# TABLE OF CONTENTS

Section	Page
I. Introduction & Certification .....	I
2. Executive Summary	
A. Costs under Current Valuation .....	2
B. Comparison with Prior Valuation .....	3
C. Gain/Loss Analysis and Plan Funding Schedule.....	5
3. Summary of Valuation Results.....	6
4. Appropriation Development for Fiscal Year 2005	
A. Derivation of Appropriation.....	7
B. Current Funding Schedule .....	8
5. GASB Statement No. 25: Actuarial Information .....	9
6. Plan Assets	
A. Breakdown of Assets by Investment Type.....	10
B. Breakdown of Assets by Fund .....	10
C. Market Value of Assets.....	10
D. Actuarial Value of Assets .....	10
E. Development of Actuarial Value of Assets .....	11
7. Information on System Membership	
A. Active Members.....	12
B. Retirees and Survivors.....	14
8. Valuation Cost Methods	
A. Actuarial Cost Method .....	16
B. Asset Valuation Method .....	16
9. Actuarial Assumptions .....	17
10. Summary of Plan Provisions .....	20
11. Glossary of Terms .....	26

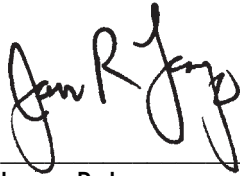
# I. INTRODUCTION & CERTIFICATION

This report presents the results of the actuarial valuation of the Webster Contributory Retirement System. The valuation was performed as of January 1, 2004 pursuant to Chapter 32 of the General Laws of the Commonwealth of Massachusetts.

This valuation was based on member data as of December 31, 2003, which was supplied by the Retirement Board. Such tests as we deemed necessary were performed on the data to ensure accuracy. Asset information as of December 31, 2003 was provided in the Annual Statement for the Financial Condition as submitted to this office in accordance with G.L. c. 32, ss. 20(5)(h), 23(1)(c) and 23(2)(e). Both the membership data and financial information were reviewed for reasonableness, but were not audited by us.

In our opinion, the actuarial assumptions used in this report are reasonable, are related to plan experience and expectations, and represent our best estimate of anticipated experience under the system. We believe this report represents an accurate appraisal of the actuarial status of the system performed in accordance with generally accepted actuarial principles and practices relating to pension plans.

Respectfully submitted,  
Public Employee Retirement Administration Commission



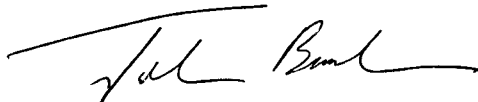
---

James R. Lamenzo  
*Member of the American Academy of Actuaries*  
*Associate of the Society of Actuaries*  
*Enrolled Actuary Number 02-4709*



---

Joseph E. Connarton  
*Executive Director*



---

John F. Boorack  
*Senior Actuarial Analyst*

January 18, 2005

## 2. EXECUTIVE SUMMARY

### PART A | COSTS UNDER CURRENT VALUATION

The results of the January 1, 2004 actuarial valuation are as follows:

Total Normal Cost	\$954,830
Expected Employee Contributions	<u>538,693</u>
Net Normal Cost	<u>\$416,137</u>

Total Actuarial Liability	\$31,369,331
Assets	<u>14,039,774</u>
Unfunded Actuarial Liability	<u>\$17,329,557</u>

The Board recently adopted a funding schedule effective in FY05. The appropriation for FY05 under this schedule is shown below.

#### Current Funding Schedule for the Fiscal Year Beginning July 1, 2004

	Dollar Amount	Percent of Payroll
Normal Cost (adjusted for timing)	\$436,944	6.6%
Estimated Administrative Expenses	\$75,000	1.1%
Amortization of Unfunded Actuarial Liability (24-year, 4.5% increasing)*	\$602,454	9.1%
Amortization of increase in liability due to 2002 ERI (24-year, 4.5% increasing)	<u>\$36,200</u>	<u>0.5%</u>
Total	\$1,150,598	17.3%

All amounts assume appropriations will be made 50% on July 1 and September 15 each fiscal year.

\* FY05 was maintained at the same level as the prior schedule.

## 2. EXECUTIVE SUMMARY *(continued)*

### PART B | COMPARISON WITH PRIOR VALUATION

The last full valuation was performed by Stone Consulting, Inc. as of January 1, 2001. Our Local Experience Study Analysis (issued in March, 2002) forms the basis for the actuarial assumptions (other than the investment return assumption) used in this valuation. Below we have shown the comparison between the two valuations.

	PERAC 1/1/04	Stone 1/1/01	Increase (Decrease)	% Increase (Decrease)
Total Normal Cost	\$954,830	\$592,070	\$362,760	61.3%
Expected Employee Contributions	<u>538,693</u>	<u>465,680</u>	<u>73,013</u>	15.7%
Net Normal Cost	<u>\$416,137</u>	<u>\$126,390</u>	<u>\$289,747</u>	229.2%
Actuarial Liability				
Actives	\$15,152,868	\$12,768,601	\$2,384,267	18.7%
Retirees and Inactives	<u>16,216,463</u>	<u>12,273,128</u>	<u>3,943,335</u>	32.1%
Total	\$31,369,331	\$25,041,729	\$6,327,602	25.3%
Assets	<u>14,039,774</u>	<u>13,772,600</u>	<u>267,174</u>	1.9%
Unfunded Actuarial Liability	<u>\$17,329,557</u>	<u>\$11,269,129</u>	<u>\$6,060,428</u>	53.8%
Funded Ratio	44.8%	55.0%	(10.2%)	

## 2. EXECUTIVE SUMMARY *(continued)*

### PART B | COMPARISON WITH PRIOR VALUATION *(continued)*

Actives	PERAC 1/1/04	Stone 1/1/01	% Difference
Number	192	182	5.5%
Total Payroll	\$6,647,994	\$5,948,701	11.8%
Average Salary	\$34,625	\$32,685	5.9%
Average Age	46.4	46.7	(0.6%)
Average Service	12.4	12.3	0.8%

Retirees and Survivors	PERAC 1/1/04	Stone 1/1/01	% Difference
Number	125	122	2.5%
Total Benefits*	\$1,699,239	\$1,275,032	33.3%
Average Benefits*	\$13,594	\$10,451	30.1%
Average Age	72.3	N/A	N/A

*\*excluding State reimbursed COLA*

## 2. EXECUTIVE SUMMARY *(continued)*

### PART C | GAIN/LOSS ANALYSIS AND PLAN FUNDING SCHEDULE

Since the last valuation, plan experience in aggregate was less favorable than assumed. There was an actuarial loss on plan assets since the actual rate of return was less than the 8.0% annual assumed rate over the 3-year period. The rates of return for 2001, 2002, and 2003 were (8.1%), (4.4%) and 16.1% respectively. There was an asset loss on a market value basis of approximately \$2.0 million over the 3-year period.

There were also losses on plan liabilities. Salary increases for continuing members appear to be significantly greater than expected. Call firefighters, who were excluded from the prior valuation, were included this valuation, increasing liability approximately \$750,000. Also, in 2002 the Early Retirement Incentive Program (ERI) was adopted, increasing liability approximately \$540,000 as of January 1, 2003. See our separate ERI report for more information.

Although the increase in normal cost is significant, on a percent of pay basis it is in line with results of other system valuations performed by PERAC and private actuaries. We expect the increase reflects pay increases for continuing members, past data issues, and the treatment of call firefighters.

In 2002 we released our Local Experience Study Analysis of local retirement systems. The study analyzed the actual experience over the prior four years with respect to retirement, disability, turnover (withdrawal), mortality, and salary increases for approximately 30 systems. As part of that study we revised the actuarial assumptions with respect to retirement, disability, turnover, mortality rates, and the salary scale. The proposed changes are based on both the actual past and anticipated future experience. Changes to the disability, turnover, and salary increase assumptions decreased total plan cost. Changes to retirement rates and using a more current mortality table increased total plan cost. Overall, the revised assumptions produce a total plan cost less than under the prior assumptions.

As part of this valuation, the Board adopted an actuarial value of assets methodology that smoothes investment gains and losses. The methodology reduces the potential volatility inherent in the market value approach. Since there have been losses on a market value basis the past three years, the smoothing methodology somewhat mitigates the market value losses. Over the long term, this approach is conservative and should help the Board better estimate future appropriation levels.

The funding schedule presented in this report was recently adopted by the board. This schedule amortizes the unfunded actuarial liability through 2028 with payments increasing 4.5% each year. There is a 5-year phase-in to the schedule during which appropriation amounts cannot be lowered, even if there are future actuarial gains.

We are available to work with you in determining alternative funding schedules at your request.



### 3. SUMMARY OF VALUATION RESULTS

A. Number of Members on Current Valuation Date	
Active Members	192
Vested Terminated Members	5
Retired Members and Survivors	<u>125</u>
Total	322
B. Total Regular Compensation of Active Members	\$6,647,994
C. Normal Cost	
Superannuation	\$649,308
Death	71,902
Disability	147,064
Termination	<u>86,556</u>
Total Normal Cost	\$954,830
Expected Employee Contributions	<u>538,693</u>
Net Employer Normal Cost	\$416,137
D. Actuarial Liability	
Active	
Superannuation	\$13,404,233
Death	446,879
Disability	803,195
Termination	<u>498,561</u>
Total Active	\$15,152,868
Vested Terminated Members	133,305
Non-Vested Terminated Members	52,677
Retirees and Survivors	<u>16,030,481</u>
Total Actuarial Liability	\$31,369,331
E. Actuarial Value of Assets	14,039,774
F. Unfunded Actuarial Liability: D – E	\$17,329,557
G. Funded Ratio: E/D	44.8%

## 4. APPROPRIATION DEVELOPMENT FOR FISCAL YEAR 2005

### PART A | DERIVATION OF APPROPRIATION

#### Cost Under Current Funding Schedule

1. a. Normal Cost as of January 1, 2004	\$416,137
b. For FY05 (adjusted for timing)	\$436,944
c. Estimated Administrative Expenses	\$75,000
d. Total Employer Normal Cost (b+c)	\$511,944
2. a. Unfunded Actuarial Liability as of January 1, 2004	\$16,748,219
b. FY05 amortization payment (24-year, 4.5% increasing)*	\$602,454
3. a. Unfunded Liability due to 2002 ERI	\$581,338
b. FY05 amortization payment (24-year, 4.5% increasing)	\$36,200
4. Total FY05 Payment [Sum of 1(d), 2(b), and 3(b)]	\$1,150,598

\* FY05 appropriation was maintained at the same level as the prior schedule.

All amounts assume payments will be made 50% July 1 and September 15 each fiscal year.

## 4. APPROPRIATION DEVELOPMENT FOR FISCAL YEAR 2005

(continued)

### PART B | CURRENT FUNDING SCHEDULE

<b>Fiscal Year</b>	<b>Normal Cost</b>	<b>2002 ERI</b>	<b>Amort. of UAL</b>	<b>Total Cost</b>	<b>BOFY Balance</b>
2005	511,944	36,200	602,454	1,150,598	18,022,739
2006	540,101	37,829	722,070	1,300,000	18,781,198
2007	569,806	39,531	890,662	1,500,000	19,470,602
2008	601,146	41,310	1,057,544	1,700,000	20,032,943
2009	634,209	43,169	1,222,622	1,900,000	20,459,804
2010	669,090	45,112	1,385,798	2,100,000	20,742,192
2011	705,890	47,142	1,479,537	2,232,569	20,870,494
2012	744,714	49,263	1,546,116	2,340,093	20,906,587
2013	785,673	51,480	1,615,691	2,452,844	20,872,059
2014	828,885	53,797	1,688,397	2,571,079	20,757,950
2015	874,474	56,217	1,764,375	2,695,067	20,554,439
2016	922,570	58,747	1,843,772	2,825,089	20,250,760
2017	973,311	61,391	1,926,742	2,961,444	19,835,125
2018	1,026,844	64,153	2,013,445	3,104,442	19,294,633
2019	1,083,320	67,040	2,104,050	3,254,411	18,615,173
2020	1,142,903	70,057	2,198,732	3,411,692	17,781,321
2021	1,205,762	73,210	2,297,675	3,576,647	16,776,221
2022	1,272,079	76,504	2,401,071	3,749,654	15,581,472
2023	1,342,044	79,947	2,509,119	3,931,109	14,176,985
2024	1,415,856	83,544	2,622,029	4,121,430	12,540,843
2025	1,493,728	87,304	2,740,021	4,321,053	10,649,146
2026	1,575,883	91,233	2,863,322	4,530,437	8,475,841
2027	1,662,557	95,338	2,992,171	4,750,066	5,992,535
2028	1,753,997	99,628	3,126,819	4,980,444	3,168,303
2029	1,850,467			1,850,467	0

All amounts assume payments will be made 50% July 1 and September 15 of each fiscal year.

Amortization of unfunded liability on 4.5% annual increasing basis to FY2028.

FY05 appropriation was maintained at the same level as the prior schedule.

Payments through FY10 are a phase-in to the schedule. Amounts for these years in future schedules cannot be less than this schedule.

## 5. GASB STATEMENT NO. 25: ACTUARIAL INFORMATION

The actuarial information required by Governmental Accounting Standards Board (GASB) Statement No. 25 is shown below.

### Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL)* (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a % of Cov. Payroll ((b-a)/c)
1/1/2004	\$14,039,774	\$31,369,331	\$17,329,557	44.8%	\$6,647,994	260.7%
1/1/2001	\$13,772,600	\$25,041,729	\$11,269,129	55.0%	\$5,948,701	189.4%
1/1/1998	\$9,711,000	\$18,817,000	\$9,106,000	51.6%	\$4,688,000	194.2%

\*excludes State reimbursed COLA

### Notes To Schedules

Additional information as of the latest actuarial valuation follows.

Valuation Date	January 1, 2004
Actuarial Cost Method	Individual entry age normal
Amortization Method	4.5% increasing
Remaining Amortization Period	24 years
Asset Valuation Method	Actuarial value, 5-year smoothing

### Principal Actuarial Assumptions:

Investment Rate of Return	8.0%
Projected Salary Increases	Service based table with ultimate rates of 4.75%, 5.00%, and 5.25% for groups 1, 2, and 4 respectively.

## 6. PLAN ASSETS

### A | BREAKDOWN OF ASSETS BY INVESTMENT TYPE

Cash and Cash Equivalents	\$3,251,669
Fixed Income Securities	4,010,072
Pooled Domestic Equity Funds	3,480,421
Pooled International Equity Funds	1,492,727
Pooled Domestic Fixed Income Funds	1,302,548
Interest Due and Accrued	54,304
Accounts Receivable	0
Accounts Payable	<u>0</u>
Total	\$13,591,741

### B | BREAKDOWN OF ASSETS BY FUND

Annuity Savings Fund	\$4,943,447
Annuity Reserve Fund	1,902,257
Military Fund	1,905
Pension Fund	467,529
Pension Reserve Fund	<u>6,276,603</u>
Total	\$13,591,741

C | MARKET VALUE OF ASSETS \$13,591,741

D | ACTUARIAL VALUE OF ASSETS \$14,039,774

## 6. PLAN ASSETS *(continued)*

### E | DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

	2003	2004
<b>A. Development of total investment income including appreciation</b>		
1. Beginning of year market value	12,131,928	13,591,741
2a. Employee contributions	539,928	
b. Employer contributions	1,082,107	
c. Other receipts	101,808	
d. Total receipts: (a) + (b) + (c)	1,723,843	
e. Benefit payments	1,748,904	
f. Expenses	127,751	
g. Other disbursements	234,590	
h. Total disbursements: (e) + (f) + (g)	2,111,245	
i. Cash flow before receivables: (d) – (h)	(387,402)	
j. Net receivables current year	0	
k. Net receivables prior year	494,510	
l. Total cash flow after receivables: (i) + (j) – (k)	(881,912)	
3. End of year market value	13,591,741	
4. Investment income including appreciation: (3) – (1) – (2(l))	2,341,725	
<b>B. Expected market value development</b>		
1. Beginning of year market value	12,131,928	
2. Cash flow (A2(l))	(881,912)	
3. Expected Return on (1)	970,554	
4. Expected return on cash flow excluding receivables A2(i) x 0.08 / 2	(15,496)	
5. Expected market value end of year (1)+(2)+(3)+(4)	12,205,074	
<b>C. Gain/(loss) for year: A3-B5</b>	1,386,667	
<b>D. Development of Actuarial Value of Assets</b>		
1. Beginning of year market value	12,131,928	13,591,741
2a. Asset gain/(loss) in prior year	(1,041,355)	1,386,667
b. Asset gain/(loss) in 2 <sup>nd</sup> prior year	(2,331,383)	(1,041,355)
c. Asset gain/(loss) in 3 <sup>rd</sup> prior year	0	(2,331,383)
d. Asset gain/(loss) in 4 <sup>th</sup> prior year	0	0
3. Unrecognized gain/(loss) .8 x [2a] + .6 x [2b] + .4 x [2c] +.2 x [2d]	(2,231,914)	(448,033)
4. Beginning of year actuarial value of assets: [1] - [3]	14,363,842	14,039,774
5. Actuarial value / Market value	118.4%	103.3%
6. Adjusted actuarial value: (4) but not less than 85% nor greater than 115% of market value		14,039,774

## 7. INFORMATION ON SYSTEM MEMBERSHIP

A critical element of an actuarial valuation is accurate and up-to-date membership information. PERAC conducted an extensive review of member data submitted for this valuation.

### PART A | ACTIVE MEMBERS

	Actives	Vested Terminations
Number of Members	192	5
Average Age	46.4	55.4
Average Service	12.4	22.6
Average Salary	\$34,625	\$4,930
Average Annuity Savings Fund Balance	\$25,183	\$5,483

### Age by Service Distribution of Active Members

Present Age	Years of Service							Total
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+	
0 - 24	2							2
25 - 29	6	2						8
30 - 34	11	9	4	1				25
35 - 39	4	13	2	7				26
40 - 44	7	4	8	6	3	1		29
45 - 49	3	8	11	5	2	7		36
50 - 54	3	5	5	5	1	2	3	24
55 - 59	2	4	3	3	2	1	3	18
60 - 64	3	1	4	4	2	1	2	17
65+	0	3	1	0	1	1	1	7
Total	41	49	38	31	11	13	9	192

## 7. INFORMATION ON SYSTEM MEMBERSHIP *(continued)*

### PART A | ACTIVE MEMBERS *(continued)*

#### Salary by Age Distribution of Active Members

Present Age	Number of Members	Total Salary	Average Salary
0 - 24	2	\$37,656	\$18,828
25 - 29	8	\$250,498	\$31,312
30 - 34	25	\$1,004,721	\$40,189
35 - 39	26	\$917,500	\$35,288
40 - 44	29	\$944,168	\$32,558
45 - 49	36	\$1,231,260	\$34,202
50 - 54	24	\$876,256	\$36,511
55 - 59	18	\$590,085	\$32,783
60 - 64	17	\$613,446	\$36,085
65+	7	\$182,404	\$26,058
Total	192	\$6,647,994	\$34,625



## 7. INFORMATION ON SYSTEM MEMBERSHIP *(continued)*

### PART B | RETIREES AND SURVIVORS

	Superannuation	Ordinary Disability	Accidental Disability	Survivors	Total
Number of Members	92	2	9	22	125
Average Age	72.6	72.7	61.0	75.5	72.3
Average Annual Benefit	\$14,784	\$17,645	\$26,607	\$5,547	\$14,055

### Benefit by Payment and Retirement Type

	Superannuation	Ordinary Disability	Accidental Disability	Survivors	Total
Total Annuity	\$188,834	\$4,769	\$19,293	\$16,133	\$229,029
Pension (excluding State reimbursed COLA)	\$1,137,136	\$29,155	\$217,918	\$86,001	\$1,470,210
State reimbursed COLA	\$34,173	\$1,365	\$2,250	\$19,907	\$57,695
Total	\$1,360,143	\$35,289	\$239,461	\$122,041	\$1,756,934

## 7. INFORMATION ON SYSTEM MEMBERSHIP *(continued)*

### PART B | RETIREES & SURVIVORS *(continued)*

#### Benefit by Age Distribution

Present Age	Number of Members	Total Benefits	Average Benefits
Less than 40	1	\$7,344	\$7,344
40 - 44	0	\$0	\$0
45 - 49	2	\$54,577	\$27,289
50 - 54	4	\$88,176	\$22,044
55 - 59	12	\$213,497	\$17,791
60 - 64	11	\$281,930	\$25,630
65 - 69	26	\$456,346	\$17,552
70 - 74	12	\$145,261	\$12,105
75 - 79	25	\$289,572	\$11,583
80 - 84	19	\$138,590	\$7,294
85 - 89	6	\$43,661	\$7,277
90+	7	\$37,980	\$5,426
Totals	125	\$1,756,934	\$14,055

## 8. VALUATION COST METHODS

### PART A | ACTUARIAL COST METHOD

The Actuarial Cost Method which was used to determine pension liabilities in this valuation is known as the *Entry Age Normal Cost Method*. Under this method the *Normal Cost* for each active member on the valuation date is determined as the level percent of salary, which, if paid annually from the date the employee first became a member of the retirement system, would fully fund by retirement, death, disability or termination, the projected benefits which the member is expected to receive. The *Actuarial Liability* for each member is determined as the present value as of the valuation date of all projected benefits which the member is expected to receive, minus the present value of future annual Normal Cost payments expected to be made to the fund. Since only active members have a Normal Cost, the Actuarial Liability for inactives, retirees and survivors is simply equal to the present value of all projected benefits. The sum of Normal Cost and Actuarial Liability for each member is equal to the Normal Cost and Actuarial Liability for the Plan. The *Unfunded Actuarial Liability* is the Actuarial Liability less current assets.

The Normal Cost for a member will remain a level percent of salary for each year of membership except for changes in provisions of the Plan or the actuarial assumptions employed in projection of benefits and present value determinations. The Normal Cost for the entire system will also change due to the addition of new members or the retirement, death or termination of members. The Actuarial Liability for a member will increase each year to reflect the additional accrual of Normal Cost. It will also change if the Plan provisions or actuarial assumptions are changed.

Differences each year between the actual experience of the Plan and the experience projected by the actuarial assumptions are reflected by adjustments to the Unfunded Actuarial Liability. An experience difference which increases the Unfunded Actuarial Liability is called an *Actuarial Loss* and one which decreases the Unfunded Actuarial Liability is called an *Actuarial Gain*.

### PART B | ASSET VALUATION METHOD

The actuarial value of assets is determined in accordance with the deferred recognition method under which 20% of the gains or losses occurring in the prior year are recognized, 40% of those occurring 2 years ago, etc., so that 100% of gains or losses occurring 5 years ago are recognized. The actuarial value of assets will be adjusted, if necessary, in order to remain between 85% and 115% of market value.

## 9. ACTUARIAL ASSUMPTIONS

INVESTMENT RETURN 8.0% per year

INTEREST RATE CREDITED TO THE ANNUITY  
SAVINGS FUND 3.5% per year

COST OF LIVING INCREASES 3.0% per year

### SALARY INCREASE

Service	Group 1	Group 2	Group 4
0	7.00%	7.00%	8.00%
1	6.50%	6.50%	7.50%
2	6.50%	6.50%	7.00%
3	6.00%	6.00%	6.50%
4	6.00%	6.00%	6.00%
5	5.50%	5.50%	6.00%
6	5.50%	5.50%	5.50%
7	5.00%	5.00%	5.50%
8	5.00%	5.00%	5.25%
9	4.75%	5.00%	5.25%
10+	4.75%	5.00%	5.25%

### MORTALITY

RP- 2000 Healthy Annuitant table (gender distinct). This is applicable to both pre-retirement and post-retirement benefits. For disabled members, the mortality rate is assumed to be in accordance with the RP- 2000 Table (gender distinct) set forward 2 years. It is assumed that 55% of pre-retirement deaths are job-related for Group 1 and 2 members and 90% are job-related for Group 4 members. For members retired under an Accidental Disability, 40% of deaths are assumed to be from the same cause as the disability.

## 9. ACTUARIAL ASSUMPTIONS *(continued)*

### WITHDRAWAL

Based on analysis of past experience. Annual rates are based on years of service. Sample annual rates for Groups 1 and 2 are shown below. For Group 4 members the rate is 0.015 each year for service up to and including 10 years. No withdrawal is assumed thereafter.

Service	Groups 1 & 2
0	0.150
5	0.076
10	0.054
15	0.033
20	0.020

### DISABILITY

Based on an analysis of past experience. It is also assumed that the percentage of job-related disabilities is 55% for Groups 1 & 2 and 90% for Group 4.

Age	Groups 1 & 2	Group 4
20	0.00010	0.0010
30	0.00030	0.0030
40	0.00101	0.0030
50	0.00192	0.0125
60	0.00280	0.0085

### ADMINISTRATIVE EXPENSES

An amount of \$75,000 has been included in the Normal Cost for FY05. This amount is assumed to increase by the salary increase assumption each year.

## 9. ACTUARIAL ASSUMPTIONS *(continued)*

### RETIREMENT (SUPERANNUATION)

Age	Groups 1 & 2		Group 4
	Male	Female	
45-49	0.000	0.000	0.010
50	0.010	0.015	0.020
51	0.010	0.015	0.020
52	0.010	0.020	0.020
53	0.010	0.025	0.050
54	0.020	0.025	0.075
55	0.020	0.055	0.150
56	0.025	0.065	0.100
57	0.025	0.065	0.100
58	0.050	0.065	0.100
59	0.065	0.065	0.150
60	0.120	0.050	0.200
61	0.200	0.130	0.200
62	0.300	0.150	0.250
63	0.250	0.125	0.250
64	0.220	0.180	0.300
65	0.400	0.150	1.000
66	0.250	0.200	1.000
67	0.250	0.200	1.000
68	0.300	0.250	1.000
69	0.300	0.200	1.000
70 and after	1.000	1.000	1.000

## 10. SUMMARY OF PLAN PROVISIONS

### ADMINISTRATION

There are 106 contributory Retirement Systems for public employees in Massachusetts. Each system is governed by a retirement board and all boards, although operating independently, are governed by Chapter 32 of the Massachusetts General Laws. This law in general provides uniform benefits, uniform contribution requirements and a uniform accounting and funds structure for all systems.

### PARTICIPATION

Participation is mandatory for all full-time employees. Eligibility with respect to part-time, provisional, temporary, seasonal or intermittent employment is governed by regulations promulgated by the retirement board, and approved by PERAC. Membership is optional for certain elected officials.

There are 3 classes of membership in the Retirement System:

**Group 1:**

General employees, including clerical, administrative, technical and all other employees not otherwise classified.

**Group 2:**

Certain specified hazardous duty positions.

**Group 4:**

Police officers, firefighters, and other specified hazardous positions.

### MEMBER CONTRIBUTIONS

Member contributions vary depending on the most recent date of membership:

Prior to 1975:	5% of regular compensation
1975 - 1983:	7% of regular compensation
1984 to 6/30/96:	8% of regular compensation
7/1/96 to present:	9% of regular compensation
1979 to present:	an additional 2% of regular compensation in excess of \$30,000.

### RATE OF INTEREST

Interest on regular deductions made after January 1, 1984 is a rate established by PERAC in consultation with the Commissioner of Banks. The rate is obtained from the average rates paid on individual savings accounts by a representative sample of at least 10 financial institutions.

## 10. SUMMARY OF PLAN PROVISIONS *(continued)*

### RETIREMENT AGE

The mandatory retirement age for some Group 2 and Group 4 employees is age 65. Most Group 2 and Group 4 members may remain in service after reaching age 65. Group 4 members who are employed in certain public safety positions are required to retire at age 65. There is no mandatory retirement age for employees in Group 1.

### SUPERANNUATION RETIREMENT

A member is eligible for a superannuation retirement allowance (service retirement) upon meeting the following conditions:

- completion of 20 years of service, or
- attainment of age 55 if hired prior to 1978, or if classified in Group 4, or
- attainment of age 55 with 10 years of service, if hired after 1978, and if classified in Group 1 or 2

### AMOUNT OF BENEFIT

A member's annual allowance is determined by multiplying average salary by a benefit rate related to the member's age and job classification at retirement, and the resulting product by his creditable service. The amount determined by the benefit formula cannot exceed 80% of the member's highest three year average salary. For veterans as defined in G.L. c. 32, s. 1, there is an additional benefit of \$15 per year for each year of creditable service, up to a maximum of \$300.

- Salary is defined as gross regular compensation.
- Average Salary is the average annual rate of regular compensation received during the 3 consecutive years that produce the highest average, or, if greater, during the last three years (whether or not consecutive) preceding retirement.
- The Benefit Rate varies with the member's retirement age, but the highest rate of 2.5% applies to Group 1 employees who retire at or after age 65, Group 2 employees who retire at or after age 60, and to Group 4 employees who retire at or after age 55. A .1% reduction is applied for each year of age under the maximum age for the member's group. For Group 2 employees who terminate from service under age 55, the benefit rate for a Group 1 employee shall be used.



## 10. SUMMARY OF PLAN PROVISIONS *(continued)*

### DEFERRED VESTED BENEFIT

A participant who has completed 10 or more years of creditable service is eligible for a deferred vested retirement benefit. Elected officials and others who were hired prior to 1978 may be vested after 6 years in accordance with G.L. c. 32, s. 10.

The participant's accrued benefit is payable commencing at age 55, or the completion of 20 years, or may be deferred until later at the participant's option.

### WITHDRAWAL OF CONTRIBUTIONS

Member contributions may be withdrawn upon termination of employment. Employees who first become members on or after January 1, 1984, may receive only limited interest on their contributions if they voluntarily terminate their service. Those who leave service with less than 5 years receive no interest; those who leave service with greater than 5 but less than 10 years receive 50% of the interest credited.

### DISABILITY RETIREMENT

The Massachusetts Retirement Plan provides 2 types of disability retirement benefits:

#### ORDINARY DISABILITY

**Eligibility:** Non-veterans who become totally and permanently disabled by reason of a non-job related condition with at least 10 years of creditable service (or 15 years creditable service in systems in which the local option contained in G.L. c. 32, s.6(1) has not been adopted).

Veterans with ten years of creditable service who become totally and permanently disabled by reason of a non-job related condition prior to reaching "maximum age".

**Retirement Allowance:** Equal to the accrued superannuation retirement benefit as if the member was age 55. If the member is a veteran, the benefit is 50% of the member's final rate of salary during the preceding 12 months, plus an annuity based upon accumulated member contributions plus credited interest. If the member is over age 55, he or she will receive not less than the superannuation allowance to which he or she is entitled.

## 10. SUMMARY OF PLAN PROVISIONS *(continued)*

### ACCIDENTAL DISABILITY

**Eligibility:** Applies to members who become permanently and totally unable to perform the essential duties of the position as a result of a personal injury sustained or hazard undergone while in the performance of duties. There are no minimum age or service requirements.

**Retirement Allowance:** 72% of salary plus an annuity based on accumulated member contributions, with interest. This amount is not to exceed 100% of pay. For those who became members in service after January 1, 1988 or who have not been members in service continually since that date, the amount is limited to 75% of pay. There is an additional pension of \$593.52 per year (or \$312.00 per year in systems in which the local option contained in G.L. c. 32, s.7(2)(a)(iii) has not been adopted), per child who is under 18 at the time of the member's retirement, with no age limitation if the child is mentally or physically incapacitated from earning. The additional pension may continue up to age 21 for any child who is a full time student at an accredited educational institution.

### ACCIDENTAL DEATH

**Eligibility:** Applies to members who die as a result of a work-related injury or if the member was retired for accidental disability and the death was the natural and proximate result of the injury or hazard undergone on account of which such member was retired.

**Allowance:** An immediate payment to a named beneficiary equal to the accumulated deductions at the time of death, plus a pension equal to 72% of current salary and payable to the surviving spouse, dependent children or the dependent parent, plus a supplement of \$312 per year, per child, payable to the spouse or legal guardian until all dependent children reach age 18 or 21 if a full time student, unless mentally or physically incapacitated.

The surviving spouse of a member of a police or fire department or any corrections officer who, under specific and limited circumstances detailed in the statute, suffers an accident and is killed or sustains injuries resulting in his death, may receive a pension equal to the maximum salary for the position held by the member upon his death.

In addition, an eligible family member may receive a one time payment of \$100,000.00 from the State Retirement Board.

## 10. SUMMARY OF PLAN PROVISIONS *(continued)*

### DEATH AFTER ACCIDENTAL DISABILITY RETIREMENT

Effective November 7, 1996, Accidental Disability retirees were allowed to select Option C at retirement and provide a benefit for an eligible survivor. For Accidental Disability retirees prior to November 7, 1996, who could not select Option C, if the member's death is from a cause unrelated to the condition for which the member received accidental disability benefits, a surviving spouse will receive an annual allowance of \$6,000.

### DEATH IN ACTIVE SERVICE

**Allowance:** An immediate allowance equal to that which would have been payable had the member retired and elected Option C on the day before his or her death. For death occurring prior to the member's superannuation retirement age, the age 55 benefit rate is used. The minimum annual allowance payable to the surviving spouse of a member in service who dies with at least two years of creditable service is \$3,000, provided that the member and the spouse were married for at least one year and living together on the member's date of death.

The surviving spouse of such a member in service receives an additional allowance equal to the sum of \$1,440 per year for the first child and \$1,080 per year for each additional child until all dependent children reach age 18 or 22 if a full time student, unless mentally or physically incapacitated.

### COST OF LIVING

If a system has accepted Chapter 17 of the Acts of 1997, and the Retirement Board votes to pay a cost of living increase for that year, the percentage is determined based on the increase in the Consumer Price Index used for indexing Social Security benefits, but cannot exceed 3.0%. Section 51 of Chapter 127 of the Acts of 1999, if accepted, allows boards to grant COLA increases greater than that determined by CPI but not to exceed 3.0%. The first \$12,000 of a retiree's total allowance is subject to a cost-of-living adjustment. The total Cost-of-Living adjustment for periods from 1981 through 1996 is paid for by the Commonwealth of Massachusetts.

## 10. SUMMARY OF PLAN PROVISIONS *(continued)*

### METHODS OF PAYMENT

A member may elect to receive his or her retirement allowance in one of 3 forms of payment.

**Option A:** Total annual allowance, payable in monthly installments, commencing at retirement and terminating at the member's death.

**Option B:** A reduced annual allowance, payable in monthly installments, commencing at retirement and terminating at the death of the member, provided, however, that if the total amount of the annuity portion received by the member is less than the amount of his or her accumulated deductions, including interest, the difference or balance of his accumulated deductions will be paid in a lump sum to the retiree's beneficiary or beneficiaries of choice.

**Option C:** A reduced annual allowance, payable in monthly installments, commencing at retirement. At the death of the retired employee,  $\frac{2}{3}$  of the allowance is payable to the member's designated beneficiary (who may be the spouse, or former spouse who remains unmarried for a member whose retirement becomes effective on or after February 2, 1992, child, parent, sister, or brother of the employee) for the life of the beneficiary. For members who retired on or after January 12, 1988, if the beneficiary pre-deceases the retiree, the benefit payable increases (or "pops up") based on the factor used to determine the Option C benefit at retirement. For members who retired prior to January 12, 1988, if the System has accepted Section 288 of Chapter 194 of the Acts of 1998 and the beneficiary pre-deceases the retiree, the benefit payable "pops up" in the same fashion. The Option C became available to accidental disability retirees on November 7, 1996.

### ALLOCATION OF PENSION COSTS

If a member's total creditable service was partly earned by employment in more than one retirement system, the cost of the "pension portion" is allocated between the different systems pro rata based on the member's service within each retirement system.

## II. GLOSSARY OF TERMS

### ACTUARIAL ACCRUED LIABILITY

That portion of the Actuarial Present Value of pension plan benefits which is not provided by future Normal Costs or employee contributions. It is the portion of the Actuarial Present Value attributable to service rendered as of the Valuation Date.

### ACTUARIAL ASSUMPTIONS

Assumptions, based upon past experience or standard tables, used to predict the occurrence of future events affecting the amount and duration of pension benefits, such as: mortality, withdrawal, disablement and retirement; changes in compensation; rates of investment earnings and asset appreciation or depreciation; and any other relevant items.

### ACTUARIAL COST METHOD (OR FUNDING METHOD)

A procedure for allocating the Actuarial Present Value of all past and future pension plan benefits to the Normal Cost and the Actuarial Accrued Liability.

### ACTUARIAL GAIN OR LOSS (OR EXPERIENCE GAIN OR LOSS)

A measure of the difference between actual experience and that expected based upon the set of Actuarial Assumptions, during the period between two Actuarial Valuation dates.

**Note:** The effect on the Accrued Liability and/or the Normal Cost resulting from changes in the Actuarial Assumptions, the Actuarial Cost Method or pension plan provisions would be described as such, not as an Actuarial Gain (Loss).

### ACTUARIAL PRESENT VALUE

The dollar value on the valuation date of all benefits expected to be paid to current members based upon the Actuarial Assumptions and the terms of the Plan.

### AMORTIZATION PAYMENT

That portion of the pension plan appropriation which represents payments made to pay interest on and the reduction of the Unfunded Accrued Liability.

## II. GLOSSARY OF TERMS *(continued)*

### ANNUAL STATEMENT

The statement submitted to PERAC each year that describes the asset holdings and Fund balances as of December 31 and the transactions during the calendar year that affected the financial condition of the retirement system.

### ANNUITY RESERVE FUND

The fund into which total accumulated deductions, including interest, is transferred at the time a member retires, and from which annuity payments are made.

### ANNUITY SAVINGS FUND

The fund in which employee contributions plus interest credited are held for active members and for former members who have not withdrawn their contributions and are not yet receiving a benefit (inactive members).

### ASSETS

The value of securities as described in Section VIII.

### COST OF BENEFITS

The estimated payment from the pension system for benefits for the fiscal year. This is the minimum amount payable during the first six years of some Funding Schedules.

### FUNDING SCHEDULE

The schedule based upon the most recently approved actuarial valuation which sets forth the amount which would be appropriated to the pension system in accordance with Section 22D of M.G.L. Chapter 32.

### GASB

Governmental Accounting Standards Board

## II. GLOSSARY OF TERMS *(continued)*

### NORMAL COST

Total Normal Cost is that portion of the Actuarial Present Value of pension plan benefits, which is to be paid in a single fiscal year. The Employee Normal Cost is the amount of the expected employee contributions for the fiscal year. The Employer Normal Cost is the difference between the Total Normal Cost and the Employee Normal Cost.

### PENSION FUND

The fund into which appropriation amounts as determined by PERAC are paid and from which pension benefits are paid.

### PENSION RESERVE FUND

The fund which shall be credited with all amounts set aside by a system for the purpose of establishing a reserve to meet future pension liabilities. These amounts would include excess interest earnings.

### SPECIAL FUND FOR MILITARY SERVICE CREDIT

The fund which is credited with amounts paid by the retirement board equal to the amount which would have been contributed by a member during a military leave of absence as if the member had remained in active service of the retirement board. In the event of retirement or a non-job related death, such amount is transferred to the Annuity Reserve Fund. In the event of termination prior to retirement or death, such amount shall be transferred to the Pension Fund.

### UNFUNDED ACCRUED LIABILITY

The excess of the Actuarial Accrued Liability over the Assets.

PERAC  
Five Middlesex Avenue  
Third Floor  
Somerville, MA 02145  
*Ph* 617 666 4446  
*Fax* 617 628 4002  
*TTY* 617 591 8917  
*Web* [www.mass.gov/PERAC](http://www.mass.gov/PERAC)